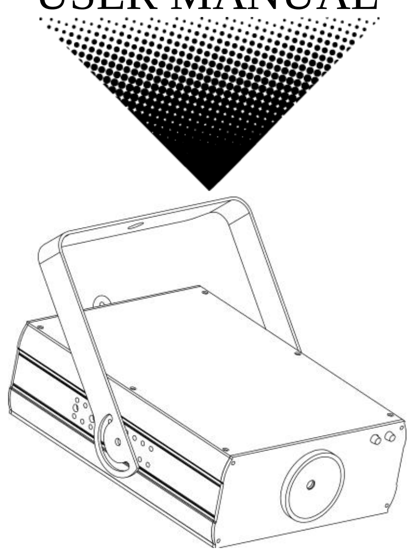
SCORPION™ STORM RGX

Snapshot

OK on Dimmer	🚫
Outdoor OK	🚫
Sound Activated	✓
DMX512	✓
Master/Slave	✓
Autoswitching Transformer	✓
Replaceable Fuse	✓
User Serviceable	🚫
Duty Cycle	🚫

USER MANUAL



CHAUVET®
Value · Innovation · Performance

3000 N 29th Ct, Hollywood, FL 33020 U.S.A.
(800) 762-1084 – (954) 929-1115
FAX (954) 929-5560
www.chauvetlighting.com

TABLE OF CONTENTS

1. BEFORE YOU BEGIN

What is included

- 1 x Scorpion™ Storm RGX
- 1 x Power Cord
- 1 x Warranty Card
- 1 x User Manual

Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

AC Power

This fixture has an auto-switching power supply that can accommodate a wide range of input voltages. The only thing necessary to do before powering on the unit is to make sure the line voltage you are applying is within the range of accepted voltages. This fixture will accommodate between 100V and 240V AC 50-60 Hz. All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.

Contact Us

World Wide

General Information

CHAUVET
3000 North 29th Court
Hollywood, FL 33020
voice: 954.929.1115
fax: 954.929.5560
toll free: 800.762.1084

Technical Support

CHAUVET
3000 North 29th Court
Hollywood, FL 33020
voice: 954.929.1115 **(Press 4)**
fax: 954.929.5560 **(Attention: Service)**

World Wide Web www.chauvetlighting.com

Safety Instructions

Please read these instructions carefully, which includes important information about the installation, usage and maintenance of this product.

- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- Always make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.
- This product is intended for indoor use only!
- To prevent risk of fire or shock, do not expose fixture to rain or moisture. Make sure there are no flammable materials close to the unit while operating.
- The unit must be installed in a location with adequate ventilation, at least 20in (50cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.
- Always disconnect from power source before servicing or replacing lamp or fuse and be sure to replace with same lamp source.
- Secure fixture to fastening device using a safety chain. Never carry the fixture solely by its head. Use its carrying handles.
- Maximum ambient temperature (Ta) is 104°F (40°C). Do not operate fixture at temperatures higher than this.
- In the event of a serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- Never connect the device to a dimmer pack.
- Make sure the power cord is never crimped or damaged.
- Never disconnect the power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to the light source while it is on.
- Do not daisy chain power to more than 75 units @ 120V.
- Lasers can be hazardous and have unique safety considerations. Permanent eye injury and blindness is possible if lasers are used incorrectly. Pay close attention to each safety REMARK and WARNING statement in the user manual. Read all instructions carefully BEFORE operating this device.

Caution! **Avoid direct eye contact with laser light. Never intentionally expose your eyes or others to direct laser light.**

Caution! **This laser product can potentially cause instant eye injury or blindness if laser light directly strikes the eyes.**

Caution! **It is illegal and dangerous to shine this laser into audience areas, where the audience or other personnel could get direct laser beams or bright reflections into their eyes.**

Caution! **It is a US Federal offense to shine any laser at aircraft.**

Caution! **Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

Caution! **There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact the dealer nearest to you.**

NON-INTERLOCKED HOUSING WARNING

This unit contains high power laser devices internally. Do not open the laser housing, due to potential exposure to unsafe levels of laser radiation. The laser power levels accessible if the unit is opened can cause instant blindness, skin burns and fires.

LASER SAFETY AND OPERATING INSTRUCTIONS

STOP AND READ ALL LASER SAFETY DATA

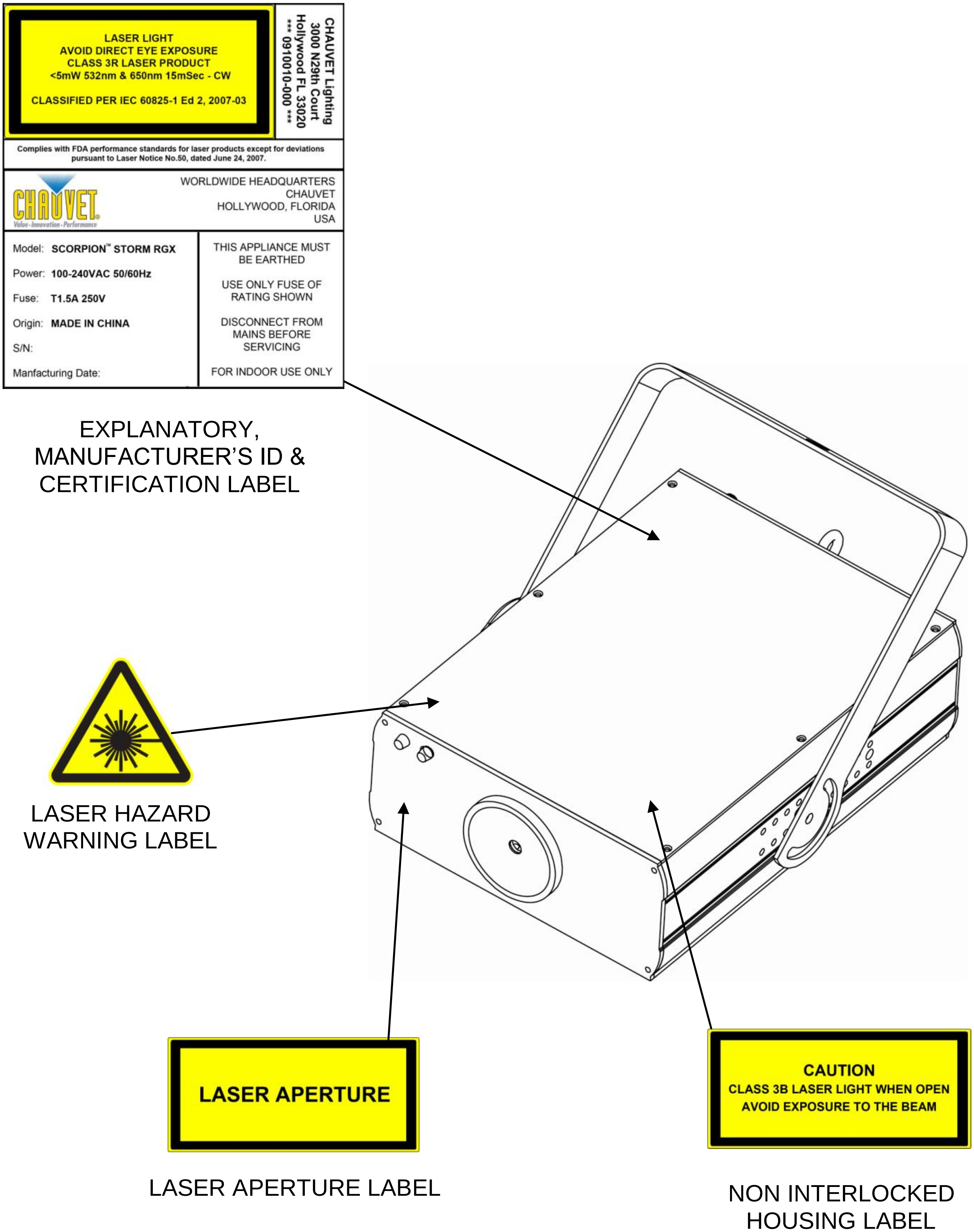
Laser Light is different from any other light sources with which you may be familiar. The light from this product can potentially cause eye injury if not set up and used properly. Laser light is thousands of times more concentrated than light from any other kind of light source. This concentration of light can cause instant eye injuries, primarily by burning the retina (the light sensitive portion at the back of the eye). Even if you cannot feel “heat” from a laser beam, it can still potentially injure or blind you or your audience. Even very small amounts of laser light are potentially hazardous even at long distances. Laser eye injuries can happen quicker than you can blink.

It is incorrect to think that because these laser entertainment products split the laser into hundreds of beams that the laser beam is scanned out in high speed, that an individual laser beam is safe for eye exposure. This laser product uses dozens of milliwatts of laser power (Class 3B levels internally) before it splits into multiple beams (Class 3R levels). Many of the individual beams are potentially hazardous to the eyes.

It is also incorrect to assume that because the laser light is moving, it is safe. This is not true. Nor, do the laser beams always move. Since eye injuries can occur instantly, it is critical to prevent the possibility of any direct eye exposure. In the laser safety regulation, it is not legal to aim Class 3R lasers in areas which people can get exposed. This is true even if it is aimed below people’s faces, such as on a dance floor.

- Do not operate the laser without first reading and understanding all safety and technical data in this manual.
- Always set up and install all laser effects so that all laser light is at least 3 meters (9.8 feet) above the floor on which people can stand. See “Proper Usage” section later in this manual.
- After set up, and prior to public use, test laser to ensure proper function. Do not use if any defect is detected. Do not use if laser emits only one or two laser beams rather than dozens/hundreds, as this could indicate damage to the diffraction grating optic, and could allow emission of higher laser levels above Class 3R.
- Do not point lasers at people or animals.
- Never look into the laser aperture or laser beams.
- Do not point lasers in areas in which people can potentially get exposed, such as uncontrolled balconies, etc.
- Do not point lasers at highly reflective surfaces, such as windows, mirrors and shiny metal. Even laser reflections can be hazardous.
- Never point a laser at aircraft, this is a federal offense.
- Never point un-terminated laser beams into the sky.
- Do not expose the output optic (aperture) to cleaning chemicals.
- Do not use laser if the laser appears to be emitting only one or two beams.
- Do not use the laser if the housing is damaged, open, or if the optics appear damaged in any way.
- Never open the laser housing. The high laser power levels inside of the protective housing can start fires, burn skin and will cause instant eye injury.
- Never leave this device running unattended.
- The operation of a class 3R laser show is only allowed if the show is controlled by a skilled and well-trained operator, familiar with the data included in this manual.
- The legal requirements for using laser entertainment products vary from country to country. The user is responsible for the legal requirements at the location/country of use.
- Always use appropriate lighting safety cables when hanging lights and effects overhead.

LASER SAFETY LABEL REPRODUCTION



LASER EXPOSURE WARNING

LASER LIGHT
AVOID DIRECT EYE EXPOSURE

Further guidelines and safety programs for safe use of lasers can be found in the ANSI Z136.1 Standard “For Safe Use of Lasers”, available from the Laser Institute of America: www.laserinstitute.org. Many local governments, corporations, agencies, military and others, require all lasers to be used under the guidelines of ANSI Z136.1. Laser Display guidance can be obtained via the International Laser Display Association: www.laserist.org.

LASER EMISSION DATA

LASER CLASSIFICATION	CLASS 3R (EQUIV. TO US CLASS IIIA)
Green Laser Medium	DPSS Nd:YVO4, 532nm
Red Laser Medium	LD GaAlAs 650nm, typical
Beam Diameter	<5mm at aperture
Pulse Data	All pulses < 4Hz (>0.25sec)
Divergence (each beam)	<2 mrad
Divergence (total light)	<160 degrees
Laser Power of Each Beam from Aperture*	<5MW

* As measured under IEC measurement conditions for classification.

LASER COMPLIANCE STATEMENT

THIS LASER PRODUCT COMPLIES WITH EN/IEC 60825-1 ED 2, 2007-03, AND US FDA/CDRH FLPPS VIA THE TERMS OF LASER NOTICE NO. 50 DATED JUNE 24, 2007. THIS LASER DEVICE IS CLASSIFIED 3R. (CLASS 3R IS THE INTERNATIONAL EQUIVALENT OF US CLASS IIIA). NO MAINTENANCE IS REQUIRED TO KEEP THIS PRODUCT IN COMPLIANCE WITH LASER PERFORMANCE STANDARDS.

2. INTRODUCTION

Features

- 4-channel DMX-512 controlled red and green effect laser
- Effect motor with control of rotation and stutter effect
- Color selection of red, green or both red & green with strobe control
- Built-in automatic programs via master/slave or DMX (red and/or green, fast or slow)
- Built-in sound activated programs via master/slave or DMX (red and/or green, fast or slow)

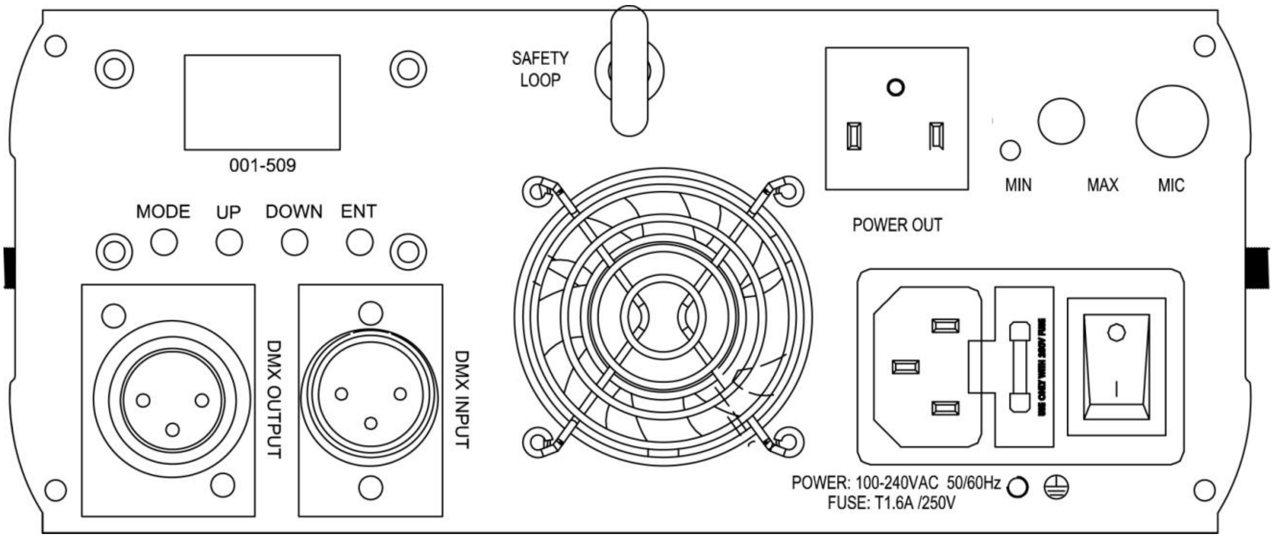
Additional Features

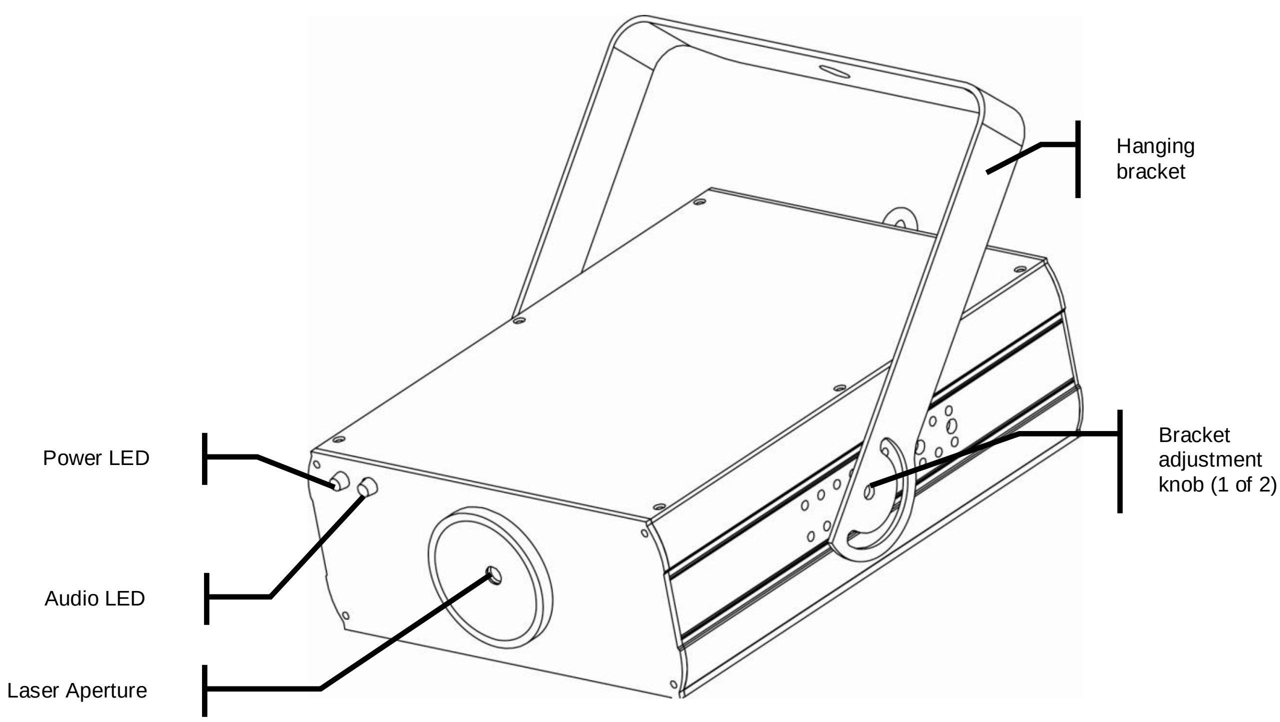
- Complies with FDA / CDRH standards for ClassIIIR
- Creates a unique star field effect with many patterns and hundreds of beams
- Multiple mounting locations for bracket
- Additional power output: max 75 units @ 120V

DMX Channel Summary

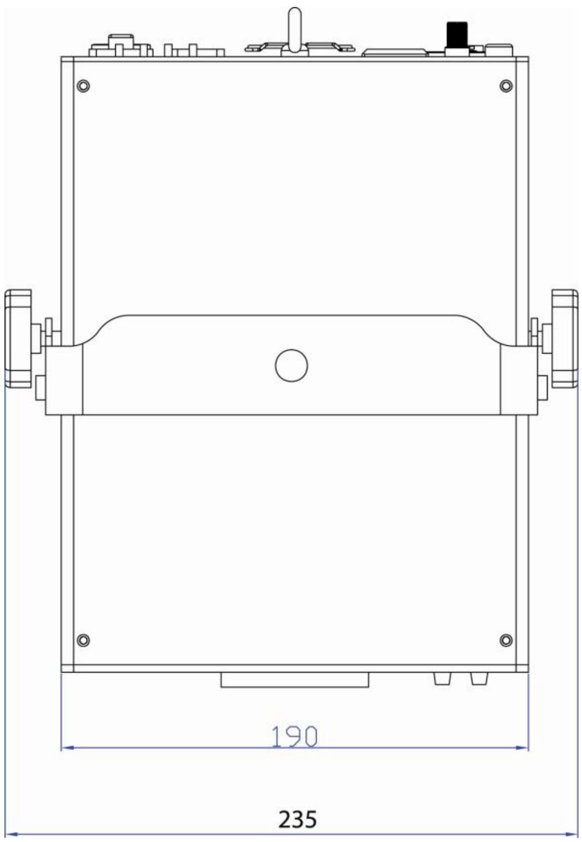
CHANNEL	FUNCTION
1	Control Mode
2	Color selection
3	Strobe
4	Rotation

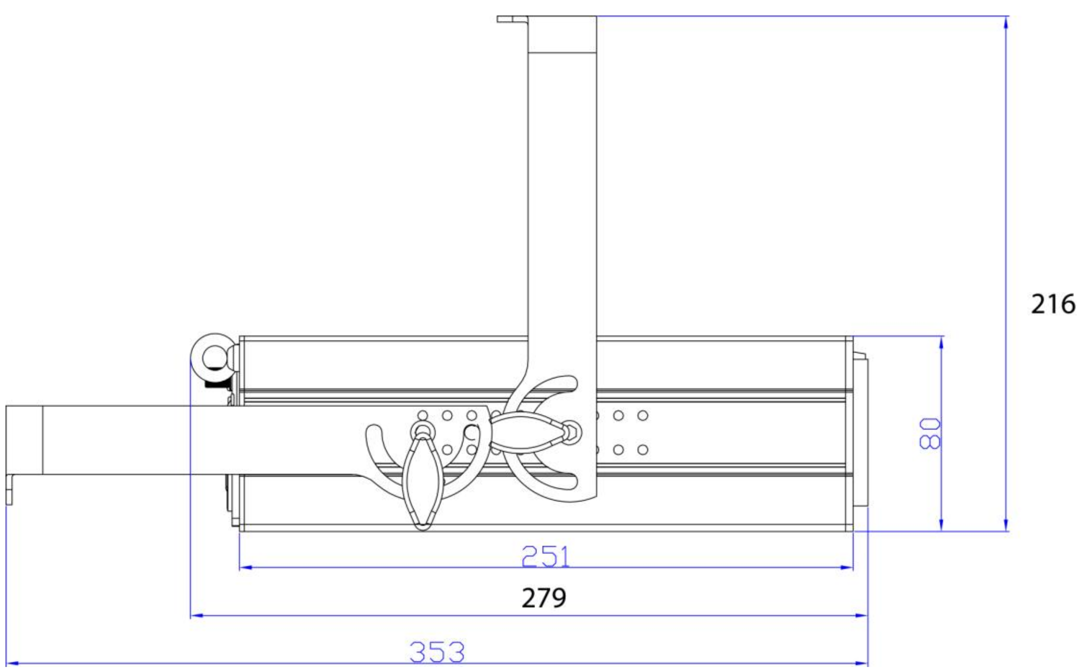
Product Overview





PRODUCT DIMENSIONS

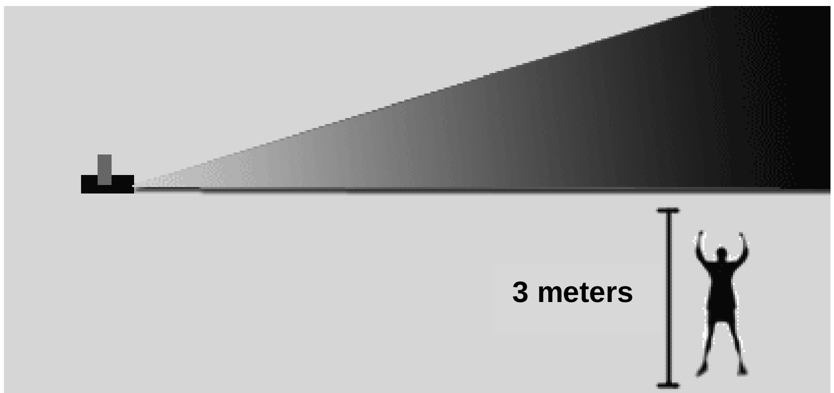




PROPER USAGE

This fixture has been designed to be hung. It is recommended for safety purposes, your lighting effects are properly mounted using a suitable hanging clamp and safety cable. Items appropriate for safe and effective mounting are easily sourced from your lighting vendor.

International laser safety regulations require that lasers must be operated in the fashion illustrated below, with a minimum of 3 meters (9.8 ft) of vertical separation between the floor and the lowest laser light vertically. Additionally, 2.5 meters of horizontal separation is required between laser light and audience or other public spaces.



CAUTION: Use of controls, adjustments, or performance of procedures other than what is specified herein may result in hazardous radiation exposure

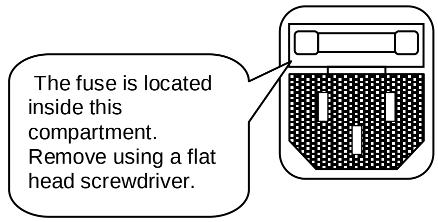
CAUTION: Use of controls, adjustments, or performance of procedures other than what is specified herein may result in hazardous radiation exposure

3. SETUP

Disconnect the power cord before replacing a fuse and always replace with the same type fuse.

Fuse Replacement

With a flat head screwdriver wedge the fuse holder out of its housing. Remove the damaged fuse from its holder and replace with exact same type fuse. Insert the fuse holder back in its place and reconnect power.



Mounting

ORIENTATION

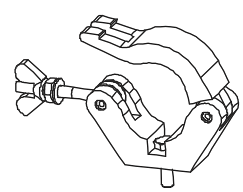
This fixture may be mounted in any safe position, provided there is adequate room for ventilation.

RIGGING

It is important never to obstruct the fan or vents pathway. Mount the fixture using, a suitable “C” or “O” type clamp. Adjust the angle of the fixture by loosening both knobs and tilting the fixture. After finding the desired position, retighten both knobs.

- When selecting installation location, take into consideration access and routine maintenance.
- Safety cables must always be used.
- Never mount in places where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.

Hanging Clamp



Note!
Clamp is sold separately.

Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows on two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

Important: Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA-485 standard no more than 32 devices should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal.

Maximum recommended serial data link distance: 500 meters (1640 ft.)
Maximum recommended number of fixtures on a serial data link: 32 fixtures

Data Cabling

To link fixtures together you must obtain data cables. You can purchase CHAUVET-certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

DMX DATA CABLE

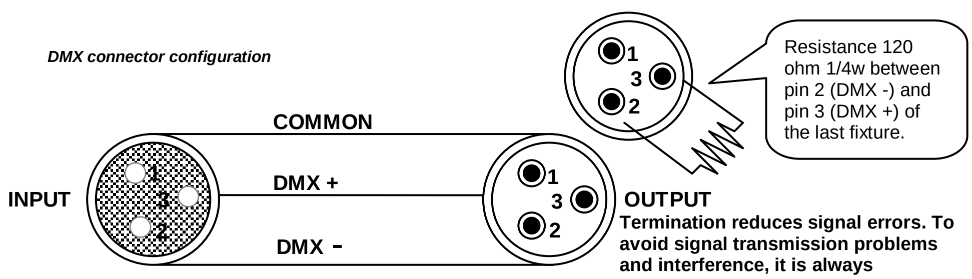
Use a Belden© 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable will have the following characteristics:

2-conductor twisted pair plus a shield
Maximum capacitance between conductors – 30 pF/ft.
Maximum capacitance between conductor and shield – 55 pF/ft.
Maximum resistance of 20 ohms / 1000 ft.
Nominal impedance 100 – 140 ohms

CABLE CONNECTORS

Cabling must have a male XLR connector on one end and a female XLR connector on the other end.

DMX connector configuration



Termination reduces signal errors. To avoid signal transmission problems and interference, it is always advisable to connect a DMX signal terminator.

CAUTION Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

3-PIN TO 5-PIN CONVERSION CHART

Note! If you use a controller with a 5 pin DMX output connector, you will need to use a 5 pin to 3 pin adapter. CHAUVET Model No: DMX5M, or DMX5F.
The chart below details a proper cable conversion:

3 PIN TO 5 PIN CONVERSION CHART

Conductor	3 Pin Female (output)	5 Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data (-) signal	Pin 2	Pin 2
Data (+) signal	Pin 3	Pin 3
Do not use		Do not use
Do not use		Do not use

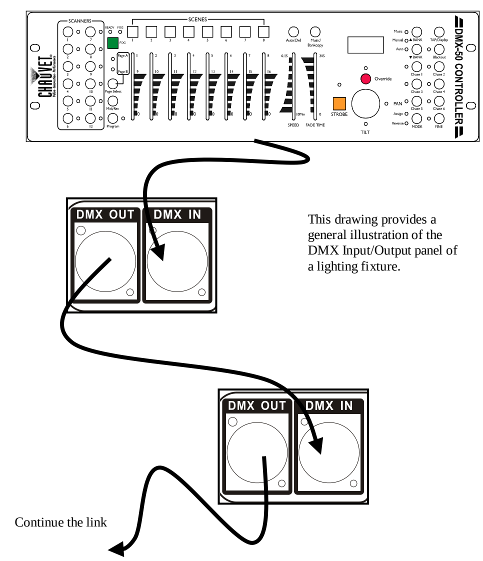
Setting up a DMX Serial Data Link

1. Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector of the controller.
2. Connect the end of the cable coming from the controller which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector.
3. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

CHAUVET Certified DMX Data Cables

Order Code	Description
DMX1.5	DMX Cable 1.5m/4.9ft
DMX4.5	DMX Cable 4.5m/14.8ft
DMX10	DMX Cable 10m/32.8ft

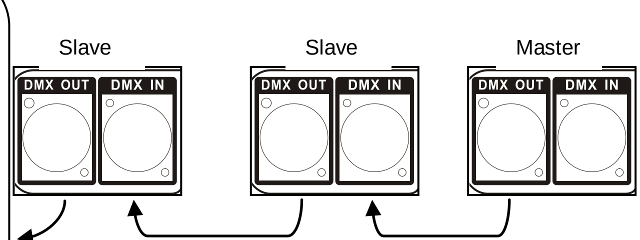
Universal DMX Controller



Master/Slave Fixture Linking

1. Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector of the first fixture.
2. Connect the end of the cable coming from the first fixture which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. Secondarily, the fixtures that follow may also require a slave setting. Please consult the "Operating Instructions" section in this manual for complete instructions for this type of setup and configuration.

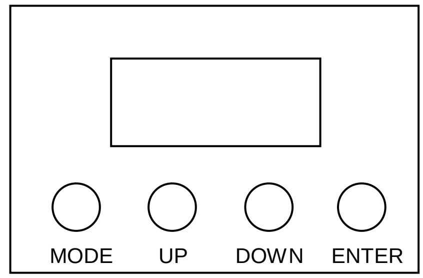


4. OPERATING INSTRUCTIONS

Navigating the Control Panel

Access control panel functions using the four panel buttons located directly underneath the LED Display.

Button	Function
<MODE>	Used to access the menu or to return to a previous menu option
<UP>	Scrolls through menu options in ascending order
<DOWN>	Scrolls through menu options in descending order
<ENTER>	Used to select and store the current menu or option within a menu



The Control Panel LED Display shows the menu items you select from the menu map on page #. When a menu function is selected, the display will show immediately the first available option for the selected menu function. To select a menu item, press **<ENTER>**.

Use the **<UP>** and **<DOWN>** buttons to navigate the menu map and menu options. Press the **<ENTER>** button to access the menu function currently displayed or to enable a menu option. To return to the previous option or menu without changing the value, press the **<MODE>** button.

Menu Functions

MAIN FUNCTION	SELECTION	DESCRIPTION/VALUES	
DMX mode	001	001 - 509	DMX starting address assignment
Stand-alone modes	AFr	Automatic fast (red)	
	ASr	Automatic slow (red)	
	AFG	Automatic fast (green)	
	ASG	Automatic slow (green)	
	AFb	Automatic fast (red & green)	
	ASb	Automatic slow (red & green)	
	Srd	Sound (red)	
	SGr	Sound (green)	
	SrG	Sound (red & green)	
	rdM	Random	
Slave	SLA	Slave mode	

DMX Channel Values

CHANNEL	VALUE	FUNCTION
1		**Control Mode**
	000 ⇔ 019	DMX Mode
	020 ⇔ 039	Automatic fast (red)
	040 ⇔ 059	Automatic slow (red)
	060 ⇔ 079	Automatic fast (green)
	080 ⇔ 099	Automatic slow (green)
	100 ⇔ 119	Automatic fast (red & green)
	120 ⇔ 139	Automatic slow (red & green)
	140 ⇔ 159	Sound (red)
	160 ⇔ 179	Sound (green)
	180 ⇔ 199	Sound (red & green)
	200 ⇔ 255	Random
2		**Color selection**
	000 ⇔ 004	Blackout
	005 ⇔ 028	Red
	029 ⇔ 056	Green
	057 ⇔ 084	Red & Green
	085 ⇔ 112	Green strobing
	113 ⇔ 140	Red strobing
	141 ⇔ 168	Red on & Green strobing
	169 ⇔ 197	Green on & Red strobing
	198 ⇔ 224	Red & Green strobing
	225 ⇔ 255	Red & green (alternate strobing)
3		**Strobe**
	000 ⇔ 004	No function
	005 ⇔ 254	Strobe (slow ⇔ fast)
	255 ⇔ 255	Strobe to sound
4		**Rotation**
	000 ⇔ 004	No rotation
	005 ⇔ 127	Clockwise rotation (slow ⇔ fast)
	128 ⇔ 133	Stop
	134 ⇔ 255	Counterclockwise rotation (slow ⇔ fast)

SETTING THE STARTING ADDRESS

This DMX mode enables the use of a universal DMX controller device. Each fixture requires a "start address" from 1 to 512. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the start address. For example, a fixture that uses 6 DMX channels and was addressed to start on DMX channel 100, would read data from channels: 100, 101, 102, 103, 104, and 105. Choose start addresses so that the channels used do not overlap, and note the start address selected for future reference.

If this is your first time addressing a fixture using the DMX-512 control protocol, we suggest jumping to the Appendix Section and reading the heading "DMX Primer". It contains very useful information that will help you understand its use.

General Troubleshooting

Symptom	Solution(s)	Applies to			
		Lights	Foggers & Snow	Controllers	Dimmers & Chaser
Auto shut off	Check fan thermal switch reset	✓			
Beam is very dim or not bright	Clean optical system or replace lamp Check 220/110v switch for proper setting	✓			
Breaker/Fuse keeps blowing	Check total load placed on device				✓
Chase is too slow	Check users manual for speed adjustment	✓		✓	✓
Device has no power	Check for power on Mains. Check device's fuse. (internal and/or external)	✓		✓	✓
Fixture is not responding	Check DMX Dip switch settings for correct addressing Check DMX cables Check polarity switch settings	✓			
Fixture is on but there is no movement to the audio	Make sure you have the correct audio mode on the control switches. If audio provided via ¼" jack, make sure a live audio signal exists Adjust sound sensitivity knob	✓		✓	✓
Light will not come on after power failure	Some discharge lamps require a cooling off period before the electronics in the fixture can kick start it again, wait 5 to 10 minutes before powering up	✓			
Loss of signal	Use only DMX cables Install terminator Note: Keep DMX cables separated from power cables or black lights.	✓	✓	✓	✓
Moves slow	Check 220/110v switch for proper setting	✓			
No flash	Re-install bulb, may have shifted in shipping	✓			
No laser output	Bounce mirror motor may have shifted during shipping, readjust	✓			

If you still have a problem after trying the above solutions, please contact CHAUVET Technical Support at the location on the next page.

Technical Support

Address: Service Dept.
3000 N 29th Ct, Hollywood, FL 33020 (U.S.A.)
Support (Email): tech@chauvetlighting.com
Telephone: (954) 929-1115 - (Press 4)
Fax: (954) 929-5560 - (Attention: Service)
Website: http://www.chauvetlighting.com

5. APPENDIX

DMX Primer

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX 512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the controller. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the fixtures whose starting address is set incorrectly. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all respond exactly the same.

DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable with three pin XLR male to female connectors. The shield connection is pin 1, while pin 2 is Data Negative (S-) and pin 3 is Data positive (S+). CHAUVET carries 3-pin XLR DMX compliant cables, DMX-10 (33’), DMX-4.5 (15’) and DMX-1.5 (5’)

Returns Procedure

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will be refused. Call CHAUVET and request RMA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer’s responsibility. CHAUVET reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA #, please include the following information on a piece of paper inside the box:

1) Your name
2) Your address
3) Your phone number
4) The RMA #
5) A brief description of the symptoms

Claims

Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise. It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Any other claim for items such as missing component/part, damage not related to shipping, and concealed damage, must be made within seven (7) days of receiving merchandise.

Technical Specifications

WEIGHT & DIMENSIONS

Length	11 in (276 mm)
Width	9.3 in (235 mm)
Height	8.5 in (216 mm)
Weight	4.6 lbs (2.1 kg)

POWER

Autoswitching	100-240VAC 50/60Hz
Fuse	1.5A 250V slow-blow
Power Consumption	11W (0.1A) max @ 120V
Inrush Power	0.4A @ 120V
Power Output	75 units max @ 120V

LASER

Green diode	532 nm 30mW
Red Diode	650 nm 80mW
Laser Type	DPSS
Cooling	Fan Cooled

RANGE

Coverage Angle	114°

THERMAL

Maximum ambient temperature	104°F (40°C)

CONTROL & PROGRAMMING

Data input	locking 3-pin XLR male socket
Data output	locking 3-pin XLR female socket
Data pin configuration	pin 1 shield, pin 2 (-), pin 3 (+)
Protocols	DMX-512 USITT
DMX Channels	4

ORDERING INFORMATION

Scorpion™ Storm RGX	SCORPIONSTORMRGX

WARRANTY INFORMATION

Warranty	2-year limited warranty